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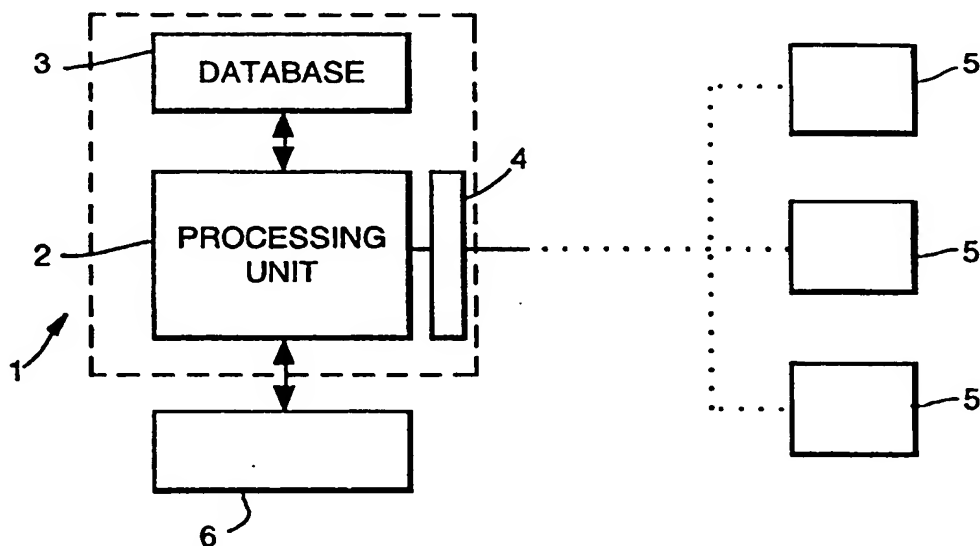
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(57) Abstract

An identity card issuing system comprises at least one mobile identity card issued field station (5), and a central identity card logging system (1) connectable to the or each card issuing station. Identification data associated with each identity card holder can be locally electronically captured and stored when the mobile station (5) is not connected to the central identity card logging system (1). The or each issuing station (5) is adapted to permit stored holder information to be sent to the central logging system (1).



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ID CARD ISSUING SYSTEM

This invention relates to an identity card issuing system suitable for use in locations which are remote from the central administration of the identity card issuing authority but close to centres of the eligible population.

Identity cards are typically made from security printed base stock which is then personalised with card holder details and as necessary other information such as a serial number of the card. It is well known, for example, to provide holder related information such as the name, address and date of birth, a replica of the holder's signature, and sometimes a biometric attribute of the holder which may be graphical or in derived form textual in nature. For example, a facial picture or a fingerprint image may be provided.

The personalising of the cards can be done in a variety of ways, such as by electronically controlled digital printing methods. For example, the personalised print medium may be electrostatic toner powder, jetted ink, transferred dyes, whether for single colour or full colour work, or transferred films. Alternatively, the printed images may be formed by a colour forming reaction including, for example, laser beam induced carbonisation or laser ablation of metallic films.

Various styles of card construction can be made ranging from short to long life cards and low to high security and the selection is made according to the purpose.

Many of the known card issuing systems are comparatively bulky and fragile and not at all suitable for transportation. There is nevertheless a need to be able to provide a method of issuing ID cards which can form a master database yet be more practical to employ during the initial registration periods.

In certain countries, there may be considerable practical difficulties attendant with installing a central

issuing centre thereby requiring either all those to be issued with cards to attend, or for identity card registration forms to be submitted so that the data can then be entered on the database and with the card then
5 being securely mailed or otherwise transported to the intended holder. At least the time involved for a national identity scheme can be considerable and the operation needs to have as simple logistics as possible.

EP 0440814A relates to a system for issuing ID cards
10 and AU-A-56424/86 describes a method of issuing an identification card and mentions decentralised stations.

According to a first aspect of the present invention, there is provided at least one identity card issuing field station, at least one of said at least one field stations
15 being mobile, and a central identity card logging system connectable to the or each card issuing field station, wherein identification data associated with each identity card holder can be locally electronically captured and stored when the field station is not connected to the
20 central identity card logging system, and wherein the or each field station is adapted to permit stored holder information to be sent to the central logging system.

The central logging system (or database) is preferably adapted to transmit previously stored data to a central
25 card issuing station or to a field station so that identity cards may be issued either centrally or from a field station using at least part of the data sent from one of the field stations during the initial capture and storage operation.

30 The system may also include one or more identity card issuing field stations which are not mobile.

A further problem can be encountered in that not all sites may readily provide a source of electrical power supplied through a national or local grid system. Indeed
35 in certain under-developed or geographically isolated parts of the world in which the system may be used there might not be any suitable electrical power supply.

In the most preferred mode, at least one of the field stations comprises its own independent power supply means which may be in addition to the facility of the system to accept electrical grid supplied power. In the preferred embodiment, at least one of the field stations comprises means for accepting local power, e.g. from a power pack or even from a mobile power supply source such as a petrol driven generator. Preferably, power is supplied from a transportable rechargeable battery source.

10 The identity cards generated by the field stations on the one hand and, where appropriate, the central logging system on the other hand may be intended for different purposes or even the same purpose but for different validity period. The field station(s) may also issue a
15 temporary identification card which may thereafter be replaced or extended in time with a card which has greater durability and which could be supplied from a central administration (or a subregion to which a number of mobile (field) stations supply data but which is linked to the
20 central database). For example, the identity cards may variously have applicability for national identity registration purposes, electoral eligibility, service entitlement, financial transaction, building access, travel pass or similar purposes.

25 For example, the first identification card issued in the remote location could have an intended expiry date of a few months ahead and be sufficient to show voting entitlement for a forthcoming election, and a higher security national identity card could be issued centrally
30 having an intended life of several years.

By collecting the information in a manner which allows closer contact with the card holders and using the system of the invention it becomes possible to form a major identity card database in a shorter time than otherwise
35 possible.

The or each mobile identity card issuing field station is preferably transportable in the sense that it is

sufficiently rugged to be conveyed by a mobile vehicle to a variety of locations with minimal packing. Such a field station could thus comprise a computer having a microprocessor operating under software control and means
5 for storing identity card holder data, a touch screen visual display unit operated by a light pen, and means for personalising and securely issuing a first identity card. The system could include a keyboard, a mouse or an optical scanner.

10 In the preferred embodiment, at least one field station includes an optical scanner for digitising facial photographs or fingerprint images provided on a registration form. The name, address and date of birth of the holder would normally be typed in. The holder details
15 and other details such as card serial number and national insurance number may also be associated with the holder details.

An electronic digital camera may also be coupled to some systems to allow the recording of a facial image
20 directly.

This holder information, textual and optionally additionally graphical would be held in a data store such as a magnetic tape or magnetic disc or magnetic tape or the like.

25 Individual identity cards may then be issued. For example, security printed identity card base stock may be provided with personalising details by using an impact printer whether of the daisy wheel or dot matrix type, by laser electrostatically depositing toner powder, by ink jet
30 printing or by transferring dyes or transferable films under the influence of a dot matrix thermal head.

The personalised identity card base is preferably then protected either by applying e.g. a heat sealable film which is then laminated in place, or by insertion into a
35 pouch of a transparent preformed card envelope which is then heat sealed so securing the printed base stock. As an alternative, a could seal pouch may be used in which the

pouch is formed by two layers of transparent plastic previously cut to identify card size and coated on their inner surfaces with a pressure sensitive adhesive which is protected by a peelable release layer. Cold seal pouches
5 are readily transportable and require no heat sealing or other weighty equipment.

In a preferred example, at least one field station has the facility to store identification data associated with each holder in a recording medium. The information for a
10 number of holders, for example a hundred or more, is electronically stored and thereafter batches of holder information are sent electronically to the central database or system. This electronic transmission to the central database could be by radio communication via an orbiting
15 satellite, or by telephone or public data networks. Alternatively, the field station data storage media could be physically transported to the central database and after receipt read into the central database of the system.

By collecting the data which arrives from the field
20 stations, the government or other card issuing authority may use that information or portions of it, and add to it so as to enable renewal cards or other documents to be sent out with efficiency. For example, for identity cards which have facial prints, it may be sufficient to issue biennial
25 renewal cards but only record a fresh facial image every ten years, unless a gross change occurred in the person's facial appearance.

The identity cards issued by the system may hold part of the holder information in machine readable manner such
30 as in bar code format or in magnetically recorded stripe format or optical character recognition formats. The cards could comprise integrated circuits and thus have memory capacity such that, for example, when the second identity card is issued medical records could be stored in the
35 holder's card for use during any future medical consultations.

According to a second aspect of this invention, there is provided a mobile identity card issuing field station as above described. In a preferred embodiment, this field station has an independent power supply.

5 According to a third aspect of the invention, there is provided an identity card which has been issued by a system according to the first aspect of the invention.

According to another aspect of the invention, we provide an identification card application form for use
10 with a system according to the first aspect of the invention. Each application form may have a serial or other number which may be displayed in bar coded or similar format so that the number can be optically scanned. In another aspect, the application forms may have magnetic
15 stripes which contain data which can be read by a magnetic head and entered into the system to be associated with the ID card holder.

The field stations may themselves have various input ports so that a number of people may be registered in
20 parallel. Any of the input ports may have a touch screen to simplify the data acceptance and card issuing operation. In another aspect, the input ports may be suitable for use by the card holder so that when the card holder has typed in the name and address, the local system controller can
25 simply verify the correctness of the information and provide any alterations rather than have to key in all of the information for each individual.

The system of the invention is particularly initially intended for electoral registration purposes in under-
30 developed countries.

An example of a system according to the invention will now be described with reference to the accompanying drawings, in which:-

Figure 1 is a block diagram of the system; and,

35 Figure 2 is a block diagram of a field station.

Figure 1 shows in schematic block diagram form a central identity card logging system 1 comprising a

processing unit 2 connected to a central database 3. The processing unit is also connected to a telephone communication device 4 of conventional form to enable the processing unit to be connected to any one of a number of remote field stations 5. The processing unit 2 is also connected to a local identity card issuing station 6.

The construction of a typical field station 5, which may be fixed or mobile, is shown in Figure 2.

The field station 5 comprises a self-contained display screen 11 with a computer processing unit 12 operating under customised software instructions, and a light pen (not shown) for use with the display screen.

The display screen 11 is preferably a touch screen or light pen operated LCD display associated with an Intel 386 or Intel 486 brand microprocessor within a single housing unit. The unit may be powered with a self-contained rechargeable power pack 13 or it could be powered from the electrical supply of a vehicle.

In use, the registration officer using the field station 5 would cause a holder registration data file to be opened in a store 17 and then collect data from the holder in response to a series of questions which the software causes to be displayed on the screen 11 in datafile sequence. The answers may be recorded using the light pen, for example, to indicate a positive or negative response to a question or if a graphical display of a keyboard were made to enter alphanumeric characters and so create a text file of the holder's name and address, etc. Alternatively, the holder could complete an application form and the data would be entered from this.

The unit 12 is optionally coupled to a portable camera 14 via an analogue-to-digital converter 15 which can capture a still electronic photo and digitise this. The replica will normally be displayed on the screen 11 and the operator given the opportunity to confirm that the photographic image is clear before it is entered digitally onto the database.

The unit 12 will normally be coupled to an electronic printer 16 which could be of a variety of kinds but will normally be a compact unit.

5 The official may then use the printer 16 to output the data or elements of the data onto security printed base stock and provide self-adhesive transparent plastic overlays to that immediately. Thus, the system will allow the immediate issue of a temporary identity card which may, for example, be sufficient for the holder to produce when
10 the holder's identity is being validated before ballot papers are issued to the holder.

The data for a number of holders may be stored on the store 17 such as high capacity memory cards, or on other means such as a portable magnetic tape unit. The store 17
15 may then be physically transported to the central identity system offices for reading into the central database 3. Alternatively, the cards may be supplied to a regional office which is connected on-line to the central database.

As a further alternative, the processing unit 12 may
20 be connected to a telephone transmitting device 18 which can be connected to a land or cellular telephone network so as to transmit the stored data to the central processing unit 2 via the telephone communication device 4.

The mobile field station 5 is sufficiently compact to
25 be stored in an aircraft flight bag as used by passengers.

The digitising camera 14 used to capture the facial or other images of the holder for digitally storing in the storage media may produce monochrome or full colour images. It is preferred that the digitising camera stores pictures
30 in digital format and does not require analogue-to-digital conversion.

By using light pen responsive facilities, a replica of the holder's signature can also be captured if the holder signs the screen.

35 In certain applications, "touch screen" response which does not involve the use of a light pen may be used.

The system may optionally have means for automatically reading in any prior identity card information, for example if prior identity cards had machine readable data, for example recorded on a magnetic tape stripe.

5 Field stations thus may be able to operate for some hours on self-contained power packs and these power packs can be changed over.

10 Data supplied from the remote field stations 5 and stored on the central database 3 can be used subsequently by the processing unit 2 to generate further identity cards using its local identity card issuing station 6 (having a similar construction to the stations 5). These will typically be higher security cards which require closer control than those issued by the remote field stations 5.

CLAIMS

1. An identity card issuing system comprising at least one identity card issuing field station, at least one of
5 said at least one field stations being mobile, and a central identity card logging system connectable to the or each card issuing field station, wherein identification data associated with each identity card holder can be locally electronically captured and stored when the field
10 station is not connected to the central identity card logging system, and wherein the or each field station is adapted to permit stored holder information to be sent to the central logging system.
2. A system according to claim 1, wherein the central
15 logging system is adapted to transmit previously stored data to a central card issuing station or to a field station so that identity cards may be issued either centrally or from a field station using at least part of the data sent from one of the field stations during the
20 initial capture and storage operation.
3. A system according to claim 1 or claim 2, wherein at least one of the identity card issuing field stations includes its own power supply.
4. A system according to any of the preceding claims,
25 wherein at least one of the card issuing field stations includes a computer having a microprocessor operating under software control and means for storing identity card holder data, a touch screen visual display unit operated by a light pen, and means for personalising and securely issuing
30 an identity card.
5. A system according to any of the preceding claims, wherein at least one of the field stations includes an optical scanner.
6. A system according to any of the preceding claims,
35 wherein at least one of the field stations includes a data store such as a magnetic tape, magnetic disc, or magnetic tape.

7. A system according to any of the preceding claims, wherein at least one of the field stations includes a printer such as an impact printer, laser printer, ink jet printer, or dye transfer printer.
- 5 8. A mobile identity card issuing field station including means for electronically capturing and storing identification data associated with each holder when the station is not connected to a central identity card logging system and adapted to permit stored data to be transferred
- 10 to a central logging system; and means for generating an identification card.
9. An identity card which has been issued by a station according to claim 8 or a system according to any of claims 1 to 7.

1/1

Fig.1.

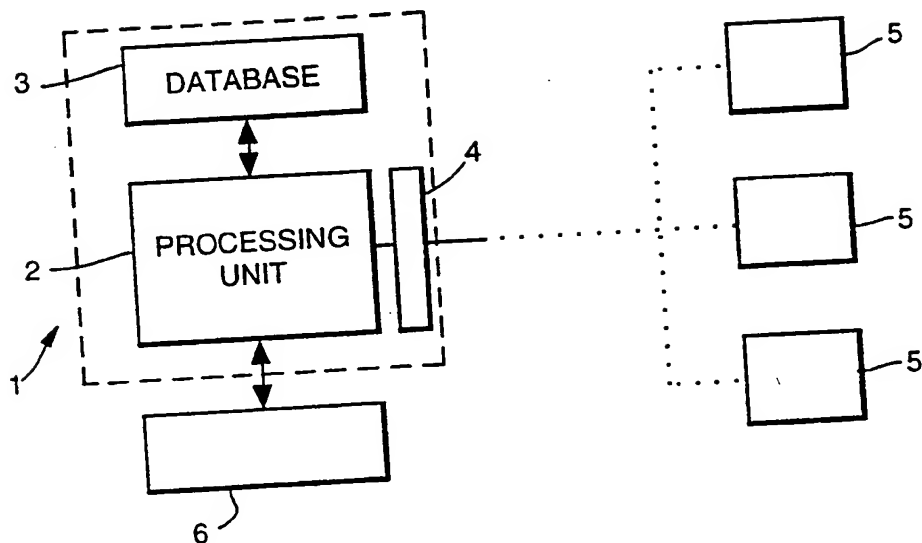
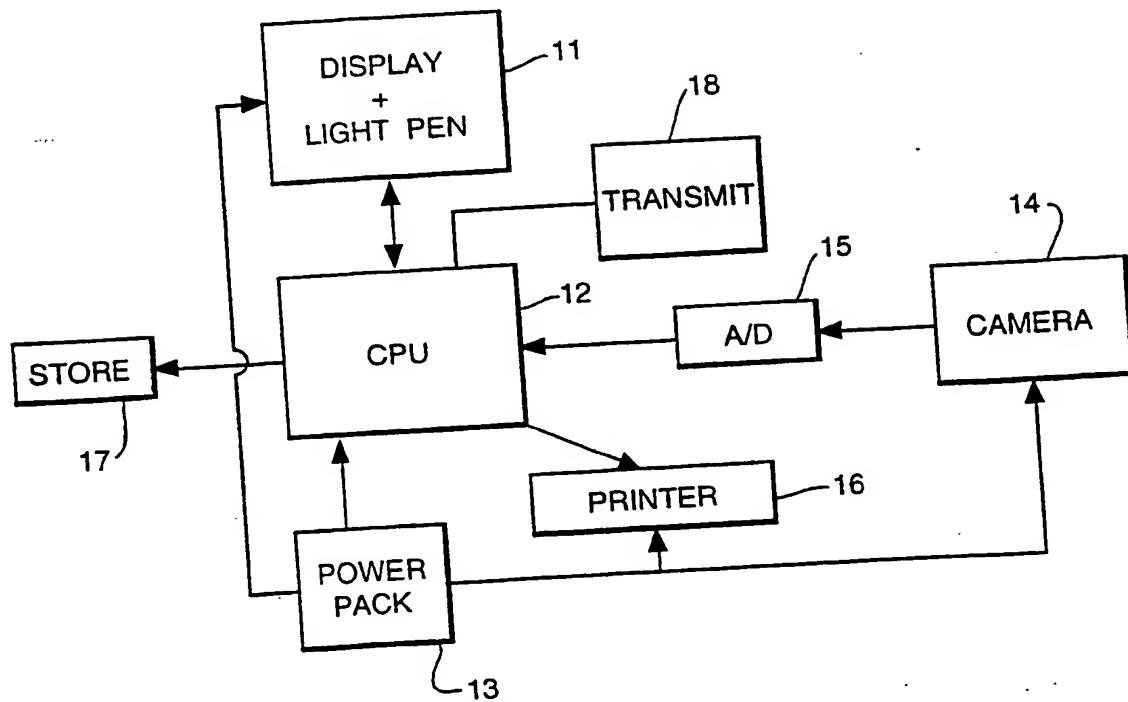


Fig.2.



INTERNATIONAL SEARCH REPORT

International Application No
PC1/GB 94/02504

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 G07F7/08 G06F15/21 B42D15/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 B42D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| A | AU,B,56 424 (HUGHS) 30 April 1987 cited in the application see page 13, line 8 - page 14, line 5; figures 3,4 | 1-8 |
| A | EP,A,0 440 814 (DAI NIPPON PRINTING) 14 August 1991 cited in the application see the whole document | 1-8 |

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☒ Patent family members are listed in annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
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| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---------------------|----------------------------|---------------------|
| AU-B-56424 | | NONE | |
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